

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 2 OCT 2005

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Applicant's or agent's file reference 702422 PCT		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/CA2004/000823		International filing date (day/month/year) 02.06.2004	Priority date (day/month/year) 03.06.2003	
International Patent Classification (IPC) or national classification and IPC B60R19/18, F16F7/12				
Applicant DECOMA INTERNATIONAL INC. et al				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  08.12.2004		Date of completion of this report  11.10.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  de Acha González, J.  Telephone No. +49 89 2399-7396		



**INTERNATIONAL PRELIMINARY REPORT  
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**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-5 as originally filed

**Claims, Numbers**

1-8, 9(part), 19(part) as originally filed  
9(part), 10-18, 19(part) filed with telefax on 09.05.2005

**Drawings, Sheets**

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	2-8, 10-19
	No: Claims	1, 9
Inventive step (IS)	Yes: Claims	
	No: Claims	2-8, 10-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**To Section V**

1. Reference is made to the following documents:

D1: US-A-5425561

D2: US-A-5746419

D3: FR-A-2410184

D4: WO 01/33100

2. From D1 (cf. especially figure 1 and column 2, lines 5 to 31) the following features are known in combination:

a vehicle bumper system comprising:

an impact beam (12) configured to be attached to a vehicle frame,  
a fascia (not illustrated but mentioned in column 2) positioned to conceal said impact beam, and

a bumper beam energy absorber (16) sandwiched between said impact beam and said fascia, said energy absorber comprising at least one layer of cell panels (one layer as shown in figure 1) having interconnected close loop cells defining an open cell network (the cells are open and not closed because a front wall is missing in all cells), said open cell network comprising at least two different sized cells positioned in at least two sections (as illustrated in figure 1, in the middle of the absorber the cells are bigger than on the sides).

Since the subject-matter of claim 1 and 9 does not differ from this prior art according to D1, it appears that claim 1 and 9 do not meet the requirements of Article 33(2) PCT.

It is noted that in claims 1 and 9 the energy absorber could be extruded or moulded. In addition, the feature "to absorb more energy in one section than another" is a functional feature rather than a structural term and therefore not binding.

3. The additional features of dependent claims 2 to 8 and 10 to 18 are known from documents D2, D3 or D4. Therefore it appears that claims 2 to 8 and 10 to 18 do not meet the requirements of Article 33(3) PCT.

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4. Claim 19 differs from the disclosure of D1 in that the three panels of the energy absorber (16) shown in figure 1 of D1 are extruded instead of moulded. D4 teaches that cell panels of an open cell network (honeycomb-shaped cells; cf. abstract) for an energy absorber can be produced from extruded polycarbonate. The shape of the extruded energy absorber, that is the shape and size of the cells, is determined by the die of the extrusion process which the person skilled in the art will select according to his needs. Therefore it appears that the method claimed in claim 19 does not meet the requirements of Article 33(3) PCT in view of the combination of D1 with D4.

**To Section VII**

5. Independent claims 1, 9 and 19 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
6. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**To Section VIII**

7. The application does not meet the requirements of Article 6 PCT, because claims 3 and 9, 11 to 16 are neither clear nor concise.

Claim 3 is redundant to claim 2. Claim 3 does not add any subject-matter which is not included in claim 2 according to its dependency on claim 1.

Claims 9 and 11 to 16 could be formulated concisely by making reference in claim 9 to the energy absorber of the preceding claims.

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**Other observations**

8. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1, D2 and D3 is not mentioned in the description, nor are these documents identified therein.

comprising at least two different sized cells positioned in at least two sections to absorb more energy in one section than another.

10. A vehicle bumper system as set forth in claim 9 wherein said energy absorber is contoured to nest within and support said fascia.

11. A vehicle bumper system as set forth in claim 10 wherein each of said cell panels are extruded.

12. A vehicle bumper system as set forth in claim 11 wherein said extruded cell panels has said at least two sections wherein a first of said two sections has cells of a first predetermined size and wall thickness and a second of said two sections has cells of a second predetermined size and wall thickness, less than said first predetermined size and wall thickness.

13. A vehicle bumper system as set forth in claim 12, wherein said energy absorber includes at least two layers of said cell panels.

14. A vehicle bumper system as set forth in claim 13 wherein each of said open cell networks of each of said layers has at least two different sized cells positioned in the at least two sections to absorb relatively more energy in one section than another.

15. A vehicle bumper system as set forth in claim 14 wherein a reinforcing sheet material is interposed between said layers of cell panels.

16. A vehicle bumper system as set forth in claim 14 wherein said layers of cell panels are enclosed with a reinforcing sheet material.

17. A vehicle bumper system as set forth in claim 14 wherein an outermost layer of cell panels is configured to collapse more readily than an inner layer of cell panels.

18. A vehicle bumper system as set forth in claim 17 wherein said outermost layer is adjacent said fascia.

19. A method of manufacturing a vehicle bumper system, said method comprising the steps of:

extruding a sheet material into a cell panel having an open cell network comprising at least two different sized cells positioned in at least two sections to absorb more energy in one section than another;

combining at least two cell panels to form an energy absorber;

conforming an outer face of said energy absorber to complementarily fit within an inner face of a fascia;